Performance evaluation of automatic physics question generation

on MathMLben Formula Concept testset (mathmlben.wmflabs.org - GoldID 310-375)

Tasks ! Questions ?

! Evaluate retrieval of units from Wikidata items (Pywikibot or SPARQL)

? How many identifier items have unit properties? Which ones? (list the properties, discuss their strengths and weaknesses)

? How many constants can be retrieved from Wikidata? Just values or units also?

! Evaluate retrieval of units from Wikipedia articles (AnnoMathTeX or unsupervised)

! Evaluate generation of identifier values

? How to (semi-)automatically calculate/retrieve reasonable values for the identifiers?

! Consistency check of identifier units

? Can the unit information be used to make a unit consistency check for left- and right-hand side of the formula?

! Solution assessment (value or unit wrong)

! Rearranging equations using CAS

? What are the issues in each step?

? How can they be addressed?

Further tasks:

-Edit LaTeX string

-Term annotation (POM-Tagger)

-Unit annotation (https://www.wikidata.org/wiki/Help:Data\_type#Quantity)

-Multilingual annotation